INTERNATIONAL RESEARCH PARTNERSHIPS GRANT (IRPG)

EARMA conference 2017

Drew Knight – Director, Global Research and Strategic Alliances, Office of Research/Waterloo International
INTRODUCTION TO THE UNIVERSITY OF WATERLOO
In just half a century, the University of Waterloo, located in the heart of Canada’s technology hub, has become one of Canada’s leading comprehensive universities with 35,000 full- and part-time students in undergraduate and graduate programs.

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<th>Established in 1957</th>
<th>Inventor ownership of intellectual property</th>
<th>Co-operative Education</th>
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<tbody>
<tr>
<td>Created by business leaders to address industry needs</td>
<td>Incentive to attract leading entrepreneurial researchers</td>
<td>Largest post-secondary work integrated learning program in the world</td>
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### HISTORY – FOUNDING PRINCIPLES

<table>
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<th>International recognition</th>
<th>Strengths (following QS subject rankings):</th>
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<td>Global rankings in the ‘Big 3’:</td>
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<tr>
<td>• QS – 152nd in the world</td>
<td></td>
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<td>• ARWU – 201-300</td>
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<tr>
<td>• THE – 173rd</td>
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<tr>
<td>Hospitality and Leisure Management Studies – 13&lt;sup&gt;th&lt;/sup&gt;</td>
<td></td>
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<tr>
<td>Computer science – 31&lt;sup&gt;st&lt;/sup&gt;</td>
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<tr>
<td>Mathematics – 34&lt;sup&gt;th&lt;/sup&gt;</td>
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<tr>
<td>Top 100: Architecture, Chemical Engineering, Civil &amp; Structural Engineering, Development Studies, Electrical Engineering, Environmental Sciences, Geography, Material Sciences, Psychology, Sports Related Subjects, Statistics and Operational Research</td>
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STRATEGIC PLAN 2013-2018

ROBUST EMPLOYER-EMPLOYEE RELATIONSHIP

EXPERIENTIAL EDUCATION

SOUND VALUE SYSTEM

TRANSFORMATIONAL RESEARCH

OUTSTANDING ACADEMIC PROGRAMMING

UNIQUELY ENTREPRENEURIAL

VIBRANT STUDENT EXPERIENCE

GLOBAL PROMINENCE AND INTERNATIONALIZATION
Goal: increase the global impact and recognition of Waterloo research

Objectives:
- support research excellence and innovation;
- lead in new/emerging research areas; and
- Increase interdisciplinary and transdisciplinary research globally.

Goal: Become one of the most internationalized universities in Canada

Objective: excellence and innovation in education, research and scholarship

Key actions: diversify funding; expand international partnerships to build exemplary global research networks with elite institutions
Between 2013 and 2015, about three in ten (28.5%) of our full-time faculty had an international citizenship.

In 2015/16, Waterloo secured almost $20 million in international research funding.
UNIVERSITY OF WATERLOO FUNDING INITIATIVES TO SUPPORT INTERNATIONAL RESEARCH

Internal seed funding
International Research Partnership Grants (IRPG)
Joint funding programs with preferred partners
The IRPG is an internal award administered by the IRP team. Created in 2011, the IRPG was born out of a need to provide Waterloo researchers with incentives to develop new international research collaborations with institutions known for high quality research and to leverage substantive funding opportunities.

The Office of Research is piloting an IRPG European Union program to support partnerships with researchers/ institutions in the European Union.

- Establish global networks
- Advance research and innovation
- Leverage new funding opportunities
IRPG AND IRPG EU- OVERVIEW

• **Eligible expenses** - Funding is primarily for travel expenses, costs associated with partnership-building activities (workshops, conferences), and/or development of proposals for international research.

• **Funding** - the Office of the V.P. University Research will cover 50% of the costs up to $20,000. The remaining 50% must be cash from another source(s). Although internal cash leveraging is permitted, *preference is given to external sources.*

• **Deadlines** - open

• **Application package**
  a) Application form for both the IRPG and IRPG EU is available on our website: [www.uwaterloo.ca/research/IRPG](http://www.uwaterloo.ca/research/IRPG)
  b) Support letters for matching funds
  c) CVs for each of the principle applicants.
  d) Signed Cover Sheet for Sponsored Research
**Evaluation** - Applications will be evaluated by a Waterloo Selection Committee, chaired by Vice-President, University Research. Criteria:

- Contribution to the advancement of knowledge (quality and scientific interest of the research/project);
- Quality and significance of the partnership (global or other rankings, areas of strategic mutual interest);
- Quality and significance of the team (expertise, complementarity);
- Possible outcomes of the research and collaboration (scientific advances, technology development, policy formulation, scholarship; dissemination; others); and
- Execution of research/project (activities plan, milestones, budget).
GRANT ACHIEVEMENTS

$860,000

Provided by the Provost for the IRPG Program
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Provided by the Provost for the IRPG Program

Grants awarded to Waterloo as a result of IRPG Collaborations totals over $4.3 million

Leveraged matching cash contributions total over $1.3 million
LEVERAGED MATCHING CASH CONTRIBUTIONS TOTAL OVER $1.3 MILLION

GRANT ACHIEVEMENTS

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GRANTS AWARDED TO UWATERLOO AS A RESULT OF IRPG COLLABORATIONS TOTALS OVER $4.3 MILLION

ADDITIONAL FUNDING RECEIVED BY IRPG PARTNERS TOTALS OVER $2.3 MILLION
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134 NEW PARTNERSHIPS DEVELOPED INCLUDING 14 INSTITUTIONS IN THE TOP 100 QS RANKINGS

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59 PRINCIPAL INVESTIGATORS AND 123 CO-INVESTIGATORS IN ALL SIX FACULTIES HAVE BEEN AWARDED IRPG GRANTS

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GRANT ACHIEVEMENTS

- **$860,000** provided by the provost for the IRPG program
- **$4.3 million** in grants awarded to UWaterloo as a result of IRPG collaborations
- **$2.3 million** in additional funding received by IRPG partners
- **134** new partnerships developed including 14 institutions in the top 100 QS rankings
- **59** principal investigators and **123** co-investigators in all six faculties have been awarded IRPG grants
- **Over 49 new innovations and technologies have been created**

Leveraged matching cash contributions total over **$1.3 million**
GRANT ACHIEVEMENTS

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5 Patents
have been filed

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GRANT ACHIEVEMENTS

$860,000 PROVIDED BY THE PROVOST FOR THE IRPG PROGRAM

- **5 PATENTS** HAVE BEEN FILED
- **OVER 49 NEW INNOVATIONS AND TECHNOLOGIES** HAVE BEEN CREATED
- **10 SPIN-OFF AND START-UP COMPANIES** HAVE BEEN DEVELOPED

- **LEVERAGED MATCHING CASH CONTRIBUTIONS** TOTAL OVER $1.3 MILLION
- **GRANTS AWARDED TO UWATERLOO AS A RESULT OF IRPG COLLABORATIONS** TOTALS OVER $4.3 MILLION
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134 new partnerships developed including 14 institutions in the Top 100 QS rankings

127 publications in top tier journals

Over 49 new innovations and technologies have been created
GRANT ACHIEVEMENTS

$860,000 provided by the provost for the IRPG program

- Over 49 new innovations and technologies have been created
- Over 175 national and international conferences and workshops attended and organized
- 127 publications in top tier journals
- 59 principal investigators and 123 co-investigators in all six faculties have been awarded IRPG grants
- 5 leveraged matching cash contributions total over $1.3 million
- Additional funding received by IRPG partners totals over $2.3 million
- Grants awarded to Waterloo as a result of IRPG collaborations totals over $4.3 million

Leveraged matching cash contributions total over $1.3 million
CASE STUDY: WATERLOO INSTITUTE FOR NANOTECHNOLOGY (WIN) Using the IRPG to build international partnerships, collaborations and exchanges

WIN has collaborations with 18 institutes in 9 countries

United Kingdom
University of Cambridge
University of Bristol

Poland
MISMap College of The University of Warsaw

France
University of Bordeaux

Brazil
National Center for Research in Energy and Materials (CNPEM)

Israel
Technion-Israel Institute of Technology

India
India Institute of Technology (IITB)
Indian Institute of Science (IISc)
Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR)

China
Soochow University (SUN)
Suzhou Industrial Park (SIP)

Japan
National Institute for Materials Science (NIMS)

Taiwan
Academia Sinica (AS)
National Taiwan University (NTU)
National Tsing Hua University (NTHU)
National Chiao Tung University (NCTU)
National Cheng Kung University (NCKU)
National Program on Nanotechnology (NPNT)
**SUN-WIN-SIP Joint Institute**

Vision: To be a global leader (Canada-China leader) in collaborative nanotechnology research, education and innovation setting a new standard for international cooperation, partnership and commercialization.

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<th>Joint Research Programs</th>
<th>Collaborative Educational Programs</th>
<th>Entrepreneurship &amp; Business Skills Development Centre</th>
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| 24 publications and 1 patent have resulted | 3+1+1  
23 students enrolled in 3+1+1, BSc/MSc program since 2012; 5 to start in 2016  
9 publications and 1 patent from 2012 and 2013 cohorts | One startup company currently located in Nanopolis  
One spin-off planned to locate in Nanopolis |
| 12 projects funded in 2012 | 2+2  
1 co-tutelle PhD student since 2015  
1 to start in 2016 | |
| 7 projects funded in 2013 | 4-month research internship  
7 students participated since 2013  
10 students to start in 2016 | |
| 5 projects funded in 2015 | | |

CHINA: SOOCHOW UNIVERSITY
14 IDS-FunMat scholarships for cotutelle PhD students at UW/UB; 4 students at other consortium Universities

Consortium partners of 9 international universities:

- University of Waterloo
- Darmstadt Technical University, Germany
- University of Lisbon, Portugal
- Liege University, Belgium
- Louvain Catholic University, Belgium
- Caen Basse University Normandy, France
- University of Bordeaux, France
- Paris VI University Pierre et Marie Curie, France
- Grenoble INP Polytechnical Institute, France
- Technical University of Lisbon, Portugal

Funding for PhD students from EU Erasmus Mundus, Local Funds (eg. Aquitaine) and Industry (Rhodia)
FOOD FOR THOUGHT

Key Drivers to facilitate global networks, leverage new funding and advance research and innovation:

- Striving to be the best necessitates partnering with the best;
- Market key established research capacities (flagship research centres; strategic research priorities);
- Provide flexibility in eligible expenses for seed programs;
- Cost sharing reinforces partnership building;
- Encourage spin-off opportunities (new research domains, tech development, commercialization, patents);
- Diversify funding options (leverage other funding via partnerships; unsolicited proposals);
- Intensify collaboration with preferred partners (additional seed funding required); and
- Build global research centres of excellence networks.

OPEN DISCUSSION: What are your best practices to facilitate global networks, leverage new funding and advance research and innovation?
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